

Store og komplekse informasjonssystemer

Gruppetime INF3290 uke 38

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Agenda

- Designing Work Oriented Infrastructures (Hanseth og Lundberg)
- Reflexive integration in the development and implementation of an Electronic Patient Record system (Hanseth, Jacucci, Grisot og Aanestad)
- ICT infrastructure for innovation: A case study of the enterprise service bus approach (Bygstad og Aanby)

Designing work oriented infrastructures

- Hva handler artikkelen om?
- Beskriv arbeidspraksisene i korte trekk (overordnet)
- Hvilken rolle har papiroorden (paper order form)?
- Hvordan koordineres arbeid og samarbeid?
- Hva består infrastrukturen av?
- Hva sier artikkelen om design av infrastrukturer?
- Hvorfor er det viktig å forstå arbeidspraksiser?

Forslag til diskusjonspunkter under gruppediskusjon

Designing Work Oriented Infrastructures

Hanseth og Lundberg

Introduction

- This paper analyzes and identifies a number of challenges one will be confronted with when implementing PACS and RIS.
- To deal with these problems it is suggested to consider them as “work oriented infrastructures”.
- This term is supposed to draw our attention to the fact that these systems have the same general characteristics as traditional infrastructures at the same time as they are developed to support specific work tasks. These are, and should be, designed and implemented primarily by their users based on their actual use of the technology.

(Hanseth & Lundberg, 2001)

Introduction

The aim of this article is to get a better understanding of the challenges of implementing PACS and RIS systems and how to deal with them.

The paper is based on the hypothesis that the high rate of failures among projects aiming at the introduction of PACS into radiology departments (just like EPRs) is due to the variety, richness, and complexity of work practices inside hospitals, and the interdependencies between the artifacts and technologies supporting the work practices.

(Hanseth & Lundberg, 2001)

Information infrastructures

When approaching information infrastructures we focus on **four** aspects.

Infrastructures are *shared resources* for a community; the different components of an infrastructure are integrated through *standardized* interfaces; they are *open* in the sense that there is no strict limit between what is included in the infrastructure and what is not, and who can use it and for which purpose or function; and they are *heterogeneous*, consisting of different kinds of components – human as well as technological.

Radiological work practices and infrastructures

Work practices

- Interaction between radiology department and its “customers”
- Inside the radiology department

Radiological infrastructure

- Collaboration and coordination

Convergence between information artifacts and clinical practice

- Chains

Designing infrastructures

- Standards
- Momentum and irreversibility
- Installed base cultivation and gateways

Conclusion

Chains

The roles played by paper documents

Reflexive integration in the development and implementation of an Electronic Patient Record system

- Hva handler artikkelen om?
- Beskriv i korte trekk hva prosjektet gikk ut på
- Hva var målet og strategien med den nye EPJen?
- Hvilke utfordringer og problemer oppsto?
- Har dette noe med kompleksitet å gjøre?
- Hva er refleksivitet i dette tilfellet?

Forslag til diskusjonspunkter under gruppediskusjon

Reflexive integration in the development and implementation of an Electronic Patient Record system

Hanseth, Jacucci, Grisot og Aanestad

Introduction

Hospitals are complex organizations

ERP (Electronic Patient Record)

This chapter will tell the story of an effort aimed at developing an EPR system

- Alpha medical solutions
- Implementation at Rikshospitalet

Scope of integration

From a Norwegian to a global project

“A side-effect of the expansion of ambitions and scope was increased complexity: the larger the market Alpha was aiming at, the more diverse the user requirements, and accordingly, the more complex the system had to be in order to satisfy them”

Scope of integration

Reflexive integration:

“When the project identified risks threatening the project, it decided to increase the scope of integration. This increased complexity and generated new risks. Again an attempt was made to contain these risks by increasing the scope of integration”

The complete and integrated patient record

The effort aimed at replacing the fragmented paper-based record with a complete and smoothly integrated electronic one turned out to be more challenging than foreseen. In the end, the volume of paper records increased and the patient record became more fragmented.

This in turn increased the overall complexity and consequently slowed down the implementation process

The role of the regional university hospitals revisited

Health sector reform in Norway

Battle of systems

Concluding discussion

The integration process turned reflexive and self-destructive

The failure of DocuLive, at least as a standardization story, can be seen as a failure to control complexity

ICT infrastructure for innovation: A case study of the enterprise service bus approach

- Hva handler artikkelen om?
- Hva er Enterprise Service Bus?
- Hva sier artikkelen om:
 - ESB som teknisk infrastruktur?
 - ESB som innovasjonsinfrastruktur?
 - ESB som organisatorisk struktur?

Forslag til diskusjonspunkter under gruppediskusjon

ICT infrastructure for innovation: A case study of the enterprise service bus approach

Bygstad og Aanby

ICT infrastructure for innovation: A case study of the enterprise service bus approach

In this paper we investigate the relationship between ICT infrastructure and innovation.

In recent years the concept of the enterprise service bus has been introduced as an ICT architecture that supports strong integration of distributed components and services, but at the same time allows for adding or subtracting business partners at short notice. What are the organizational issues and challenges of this approach?

ICT infrastructure for innovation: A case study of the enterprise service bus approach

The Enterprise Service Bus is an ICT architecture that aims at being able to support two seemingly contradictory features: It integrates a network of business partners at a transactional level, enabling real-time systems to communicate seamlessly. At the same time the components are loosely coupled; it is possible to add or subtract business partners at short notice, without affecting the daily running of operations

ICT infrastructure for innovation: A case study of the enterprise service bus approach

Level 1: Technical infrastructure

Description: A service bus architecture, based on an opensource bus with web service interfaces.

Innovation aspect: Enables the extension of new components at low cost, within a business unit.

ICT infrastructure for innovation: A case study of the enterprise service bus approach

Level 2: Service innovation infrastructure

Description: An innovation mechanism, based on combinations of resources on the bus.

Innovation aspect: Enables the innovation of new business services.

ICT infrastructure for innovation: A case study of the enterprise service bus approach

Level 3: Organizational structure

Description: A lean and flat organization structure, structured on business units.

Innovation aspect: Enables creative cooperation and fast decisions

Plan for neste uke

Forelesning:

Informasjonsinfrastruktur i offentlig sektor - E. Grøtnes

Gruppetime (pensum):

- Balancing the Local and the Global in Infrastructural Information Systems (Rolland og Monteiro)
- Who's in Control: Designers, Managers – or Technology? Infrastructures at Norsk Hydro (Hanseth og Braa)
- Ecologies of e-Infrastructures (Hepsø, Monteiro og Rolland)
- Control Devolution as Information Infrastructure Design Strategy: A case study of a content service platform for mobile phones in Norway (Nielsen og Aanestad)